

## **Estimation of late run sockeye and coho salmon escapement in the Clark River, a tributary to Chignik Lake, Alaska Peninsula National Wildlife Refuge, 2002**

**Abstract:** Sockeye salmon *Oncorhynchus nerka* in the Chignik Lake system are an important species for commercial and subsistence harvest. In recent years, subsistence fishers in the Chignik area have had difficulty harvesting enough fish and are concerned that the runs have declined and may be over-exploited by the commercial fishery. This project was initiated to address these concerns, and the objectives were to estimate the escapement of late run sockeye and coho *O. kisutch* salmon in the Clark River, estimate the escapement of Clark River sockeye salmon that pass the Chignik weir from August until the weir is removed in early September, and to determine the run timing of Clark River sockeye salmon past the Chignik weir in August and September. Stream walking surveys were used to generate area-under-the-curve estimates for Clark River escapement. Radio transmitters were implanted in a sample of sockeye salmon passing the Chignik weir in proportion to the run in August and September to estimate area-specific escapements and to examine run timing past the weir. Ninety-six sockeye salmon were implanted with transmitters in 2002, and 81% were successfully tracked to final locations. Seventy-four percent of tagged fish were found in Chignik Lake and the Clark River, which corresponds to an escapement estimate of 76,469 sockeye salmon that passed the Chignik weir in August and early September. Only five radio-tagged sockeye salmon migrated up the Clark River in 2002; all five fish were tagged after 21 August and moved up the Clark River after 10 October. Logistical problems and high water prevented the successful completion of stream walking surveys on the Clark River in 2002.

**Citation:** Anderson, J. L. 2003. Estimation of late run sockeye and coho salmon escapement in the Clark River, a tributary to Chignik Lake, Alaska Peninsula National Wildlife Refuge. 2002. U. S. Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program, 2002 Annual Report (Study No. 02-099). U. S. Fish and Wildlife Service, King Salmon Fish and Wildlife Field Office, Alaska Fisheries Technical Report Number 64, King Salmon, Alaska.